CHAPTER I

INTRODUCTION

1.1. Background

As time progresses economic activities from time to time have experienced many changes, in the past to carry out transactions it took quite a long time and the seller and buyer had to meet directly (Pratama, 2019). In the beginning, humans used a barter system in transactions. The barter system is a traditional trading system carried out by mutual exchange to obtain goods and meet their needs (Dacolfany, 2018).

From time to time, the form of money changes over time. At one time, precious metals such as gold were used as the main means of payment. Furthermore, paper assets such as checks and banknotes began to be used as a means of payment and were considered money (Frederich S, 2010). The use of technology to carry out financial transactions is also increasing. The currency system currently used for transactions is still constrained by a country's legal regulations with privacy restrictions, transaction costs, inflation, etc. Based on these limitations, several people came up with the idea of creating a new currency that could overcome various societal problems so that they could make transactions without interference from third parties such as bitcoin (Wijaya, 2018).

It was in 2008 that bitcoin, introduced by Satoshi Nakamoto as a currency based on cryptography, came into existence. Bitcoin is a payment network based on peer-to-peer technology. A peer-to-peer network is a computer network in which each computer is both a client and a server. All transactions related to bitcoin are stored in the database of the bitcoin network. When any exchange of goods or services occurs using bitcoin, the parties involved-a buyer and a seller-are considered to be registered in the bitcoin database network automatically. (Darmawan, 2014).

Users of bitcoin, a digital currency unaffiliated with banks or governments, can shop anonymously. Users create these coins by lending computing power to validate other users' transactions, a process known as mining, and receiving bitcoins in exchange. (Pratama, 2019).

What differentiates bitcoin from the current banking system is that the digital journal in bitcoin is not stored in a particular agency or party. In bitcoin, this digital journal is kept by each person or anyone who owns and helps process transactions. So, when the digital journal is damaged, the user has backup from all other users. Not one party controls this journal, everyone participates (Pratama, 2019).

Bitcoin's supply is regulated by a transparently defined algorithm, while its demand is primarily influenced by expected price movements. Like other commodities, the price of Bitcoin is driven by the interaction of supply and demand. Since 2013, Bitcoin has seen rapid adoption as a medium of exchange, likely because of its lower transaction costs compared to traditional currencies, instant transaction capabilities, and quicker international payment processing (Oh J. H., 2018). The fees charged on each bitcoin transaction are paid to the bitcoin miners who verify the transaction. If transactions in traditional financial systems take several hours to several days to complete, bitcoin transactions take 10 minutes. However, the significant volatility of Bitcoin has hindered its effectiveness as a reliable store of value and a consistent unit of account.

The demand for bitcoin has been increasing over the years despite its high volatility. The increasing demand may be due to the anonymous nature of bitcoin transactions. The anonymity offered by this revolutionary digital payment system protects user privacy, but it also facilitates activities like money laundering, drug transactions, and theft. The increasing debate over the use cases of bitcoin, its volatility, user intentions, fluctuations, and its worldwide acceptance as a medium of exchange are bound to get increased attention from the financial experts and economists.

In recent years, bitcoin has become a major concern in the world of global finance. As one of the most well-known forms of cryptocurrency, bitcoin has experienced significant price volatility. As interest in bitcoin increases, questions about The effect of bitcoin volatility on exchange rate in Indonesia become increasingly important.

The public is currently very interested in Bitcoin as a trading and investment option. In 2024, there will be over 18,000 businesses that accept cryptocurrency payments, and there will be over 617 million cryptocurrency investors globally (Liputan6, 2024). Additionally, according to data from the Commodity Futures Trading Supervisory Agency, there will be over 21.27 million cryptocurrency investors in Indonesia in 2024. (Komoditi, Bappebti: Jumlah Pelanggan Aset Kripto di Indonesia Tembus 21,27 Juta, 2024).

Bitcoin has a big effect on conventional currencies. By providing a substitute for centralized banking and payment systems, Bitcoin has put the established financial system to the test. Peer-to-peer transactions without middlemen are made possible by bitcoin's decentralized structure, which could lower transaction costs and promote financial inclusion. (Swan, 2015).

While bitcoin adoption presents opportunities, it also raises questions about its impact on the Indonesian economy, particularly the extent to which bitcoin volatility influence the Indonesian Rupiah exchange rate. Academics such as Garratt and Wallace (2017) have investigate into and provided illuminating findings about the interaction between bitcoin and traditional currencies. Surveys and reports from India's Pew Research Center would provide useful data on the preferences and behavior of tech understand Indonesian people concerning the use of bitcoin. Looking into the needs for regulatory responses will be growingly relevant as the crypto landscape continues to change. Publishing papers from Bank Indonesia, together with other regulatory authorities, gives an overview of the crypto governance framework within Indonesia. The comparative studies into the regulations on cryptocurrencies in other denominations would also enliven talks of feasible regulatory measures for Indonesia.

The market valuation of this currency may provide some effects in relation to the IDR exchange rate. As more individuals and businesses become involved in bitcoin, demand for the IDR may be influenced. There may be periods of time when the fluctuation in the value of these leading bitcoin against USD attracts attention with regard to IDR investment, thus presenting changes in the IDR/USD exchange rate.

In order to track the market value of various bitcoin and their possible influence on the IDR exchange rate, monitoring is very essential. Factors like the sentiment in the market, changes in regulation, and global economic conditions very much influence how bitcoin will interact with the exchange rate of the Indonesian currency, the Rupiah (IDR).

The relationship between bitcoin, exchange rates, and stock prices has been explained in numerous articles. For example, Oh (2018) demonstrated how cryptocurrency values the exchange rate by integrating it into the money supply equation. Results show that as cryptocurrencies become more widely used, the economy's monetary base grows, creating more money. Exchange rate levels rise as a result of rising interest rates brought on by this expansion in the amount of money in circulation.

Despite the growth of literature regarding bitcoin volatility, their adoption, and implications, little research has been done in Southeast Asia's largest economy Indonesia. In recent years, Indonesia has witness very big growth in bitcoin trading activities, under a managed floating exchange rate setting. The number of users of cryptocurrency in Indonesia increased from 65,461 users in 2015 to 21,270,000 users in September 2024, earning Indonesia a spot among the top 10 countries that have the highest rate of adoption of this currency on the globe ((Komoditi, 2019); (Rahmawati, 2024); (Komoditi, 2024). Given the exchange rate regime of Indonesia and the role that speculations play in bitcoin volatility movements and their effects on the exchange rate, it has thus become crucial for empirical research in this area of bitcoin exchange rate relations in the country.

In this case, the market value of this bitcoin may affect the exchange rate of Rupiah (IDR). An increasing adoption of bitcoin by individuals and corporate entities will thus impact the demand for IDR. Fluctuation in the value of the two leading bitcoin versus the USD may change the attractiveness of investing in IDR currency and potentially result in a change in the IDR/USD exchange rate.

This study intends to evaluate the relationship of interest on certain variables. One significant economic indicator is the exchange rate (IDR/USD), which represents the stability and competitiveness of an economy in the international marketplace. The choice of the IDR/USD pair is largely dictated by the fact that it represents the most traded currency pair with respect to the Rupiah, thereby reflecting the dynamics of international supply and demand, influenced by foreign trade, investment, and global market sentiment. Thus, this decision ensures that the analytical discussion deals with the primary interactions between domestic and international markets (Sihombing & Mulyantini, 2020).

The volatility of bitcoin was considered as an independent variable because its pronounced effect on the global financial markets. As the most prominent cryptocurrency, Bitcoin's volatility is often the benchmark for the entire cryptocurrency market. The BTC/USD pair is also relevant since the US dollar has been the main reserve currency of the world, while most of the trading in cryptocurrency, including Bitcoin, is done against the dollar. Therefore, this pair sustains research into the global volatility of bitcoin as well as its interaction with some traditional currencies like the Rupiah. bitcoin is also extremely volatile and increasing adoption in Indonesia further highlight its relevance, adding conducive dynamics in capital flows and changing financial behaviour (Kristoufek, 2015).

This study considers interest rate as an important variable. Interest rates- mirrors the cost of borrowing and return on savings become important subjects of study in the area of monetary policy and the functioning of the financial market. Changes in interest rates might affect the capital inflows and outflows of the country, thereby affecting the demand and supply of Rupiah in the foreign exchange market. This research analyze interest rates so that it can identify how Indonesia monetary authorities want to deal with issues due to volatility in bitcoin and possible impacts there on the traditional financial system (Mankiw, 2003).

One key factor concerning inflation is the Consumer Price Index (CPI), which directly affects purchasing power and thus the larger economic environment. Inflation erode purchasing power of a currency, and rising CPI generally indicates the growing instability of the economy. The CPI, when considered in this study, allows for the understanding of how macroeconomic conditions may exert their effects either to amplify or mitigate the impact of bitcoin on exchange rates. The relationship among CPI, Bitcoin volatility, and interest rates provides an indepth analysis of how bitcoin have impacted the traditional financial and economic system in Indonesia (Frederich S, 2010).

To analyze this relationship, this research focuses on Indonesia as a research object because of its unique position as one of the countries with the fastest growing cryptocurrency adoption rate. Indonesia is the country with the largest economy in Southeast Asia and has a floating exchange rate system which is influenced by domestic and international factors. The number of cryptocurrency investors in Indonesia has increased significantly from year to year. In 2015, there were only 65,461 users, then in 2019, the number of users was recorded at 2,000,000 people. A year later, in 2020, the number jumped to 4,400,000 users. This positive trend continues with a drastic increase in 2021, reaching 11,200,000 users. Entering 2022, the number of users grew again to 16,550,000. The increase continues, although at a more moderate rate, where the number of users in 2023 reaches 18,250,000. Finally, in 2024, the number of users managed to break through the 21,270,000 mark, reflecting consistent growth. In fact, the number of cryptocurrency investors in Indonesia far exceeds stock and mutual fund investors in Indonesia. Makes Indonesia an interesting case study to examine the impact of bitcoin volatility on the traditional financial system. Additionally, Indonesia's dependence on the USD for trade and foreign investment reinforces the importance of studying the IDR/USD pair in the context of bitcoin volatility (Rahmawati, 2024).

In contrast to other countries, Indonesia's regulations regarding cryptocurrencies are still evolving, providing an interesting backdrop for studying the interactions between new financial innovations and existing monetary policy. The findings of this research can provide insight not only for policy makers in Indonesia but also for other developing countries that face similar challenges in integrating bitcoin into their economies (Komoditi, 2019). By focusing on

Indonesia, this research aims to contribute to the understanding of how a fast-growing economy navigates the complex interactions between traditional and digital financial ecosystems.

This study comes out with an assessment of how bitcoin price volatility affects exchange rates in Indonesia by considering these variables, ensuring a comprehensive and complicated understanding of the interactions of bitcoin and economic factors in Indonesia this is extremely helpful to the policymakers, investors, and academics.

1.2. Formulation of the Problem

Based on the previous description, the problem formulation can be given as follows:

1. What is the effect of bitcoin volatility on the exchange rates in Indonesia?
2. What is the effect of interest rate on the exchange rates in Indonesia?
3. What is the effect of consumer price index on the exchange rates in Indonesia?

1.3. Research Purposes

The aim of the research to be carried out is to

1. Detecting and analyzing the impact of bitcoin volatility on exchange rates in Indonesia
2. Detecting and analyzing the impact of interest rate on exchange rates in Indonesia
3. Detecting and analyzing the impact of consumer price index on exchange rates in Indonesia

1.4. Benefits of Research

The hope of this research is to be able to share benefits with various parties, namely:

- For Companies

The benefits for companies from this research can provide information about bitcoin on the rupiah exchange rate which may be useful for companies.

- For Investors

The benefits for investors are that this research can be a guide or reference in making conclusions or investment decisions.

- For Policy Makers

The benefits for policy makers are that they can make decisions regarding the emergence of bitcoin as a new financial innovation product.

- For Universities and Advanced Researchers

The benefits for universities and academics, this research should be the development of knowledge about bitcoin that can be useful and can be further developed by subsequent researchers.